Newsletter of the National Biological Information Infrastructure

nbii Access

Fall 1999 www.nbii.gov Volume 2, Number 4

# NBII Metadata Profile Endorsed As Official FGDC Standard

The National Biological Information Infrastructure (NBII) biological metadata standard has been endorsed as an official Federal Geographic Data Committee (FGDC) standard. On October 26, the FGDC Steering Committee formally approved the biological metadata profile as an official FGDC standard. The FGDC Steering Committee is chaired by Secretary of the Interior Bruce Babbitt.

The NBII <www.nbii.gov> is a Web-based system that provides access to data and information on the nation's biological resources. Through the NBII, information from government agencies, universities, natural history museums, and many others is made available to NBII users, who include resource managers at public agencies, scientists in the public and private sectors, educators at all levels, and the general public.

The NBII biological metadata standard is used to describe or catalog biological data sets, databases, or information products (such as maps or technical reports) by documenting such items as subject matter; how, when, where, and by whom the data were collected; accuracy of the data; and availability and distribution information.

The NBII metadata standard has been developed as a "biological data profile" of the existing FGDC Content Standard for Digital Geospatial Metadata <http://www.fgdc.gov/metadata/contstan.html>. It extends the use and applicability of this standard for the documentation of biological resources data and information products, including those data sets and information products that may not be explicitly geospatially referenced. Metadata developed according to the standard are made available for searching through the online NBII Metadata Clearinghouse

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# NBII Receives Two Awards

The National Biological Information Infrastructure (NBII) program has recently received two important awards.

First, the NBII program has been among those selected to receive a 1999 Government Technology Leadership award. This year there were 109 nominations to receive this prestigious award. The Government Technology Leadership award was created to recognize projects that have directly aided in fulfilling the mission of an organization by boosting efficiency and effectiveness, lowering costs, and improving service to the public through original uses of technology.

On December 1, the award will be presented to this year's winners at a special reception at the Reagan International Trade Center in Washington, DC. In addition, the NBII and the other Government Technology Leadership award winners will be featured in an article about this year's winners in the December 1999 issue of *Government Executive* magazine.

Second, the NBII program was recently selected as one of this year's Best Feds on the Web by GovExec.com, the Web site of *Government Executive* magazine. The NBII was one of 16 winners chosen from the 120 nominations submitted.

The judges' decisions in choosing the top federal Web sites were based

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## In This Issue

# ITIS: Going International With ITIS*ca

In June 1998, several Canadian and U.S. colleagues met in Ottawa to discuss the expansion of the U.S. partnership working on the Integrated Taxonomic Information System (ITIS) to include Canada. The meeting was held at Agriculture and Agri-Food Canada's Eastern Cereal and Oilseed Research Centre (ECORC) that hosts Canada's largest concentration of active taxonomists working in the areas of botany, mycology, entomology, biodiversity, and biological informatics. Both parties enthusiastically agreed to join efforts and work together to enhance ITIS for the future and make it evolve towards a truly North American system. ITIS <www.itis.usda.gov> is the first comprehensive, standardized reference for the scientific names of the flora and fauna of North American and surrounding oceans.

The first concrete signs of this expanded partnership are starting to show with the launch of the Canadian implementation of the ITIS database. Known as ITIS*ca, the site is now available for preview at <http://res.agr.ca/itis/>.

While the Canadian interface to ITIS looks different from its U.S. counterpart, both systems share the same underlying model and the same data. Any decisions on changes required to the ITIS structure are taken in consultation with all partners. For the time being, data are mirrored from the U.S. site to the Canadian site on a regular basis. In the future, changes made to the data on either site will be automatically reflected on the other site.

ITIS*ca features a bilingual interface in English and French. It is possible to toggle between languages instantly at any point in the system, and the interface could be easily adapted to support additional languages. Common names that include diacritical signs can be searched with or without accents. ITIS*ca will return the correctly accented form.

The default (simple) query screen enables users to perform sophisticated searches across all living kingdoms at once, or to restrict their query to a single kingdom in particular. Searches can be initiated using scientific or common names. ITIS*ca will scan the relevant tables and return exhaustive results. Exact string searches (for example "Irish potato") are possible, and also substring searches (e.g., anything containing, starting with, or ending

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## *NBII Metadata Profile Endorsed As Official FGDC Standard*

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<http://www.nbii.gov/clearinghouse.html>.

Prior to its endorsement by the FGDC Steering Committee, the biological data profile underwent an extensive FGDC review and approval process for more than one year. The FGDC's Biological Data Working Group, which includes representatives from several different federal agencies and non-government organizations, coordinated the development and review of the profile. The draft profile underwent a formal 90-day public review in fall 1998. In addition, the American Institute of Biological Sciences conducted two expert peer reviews of the standard—one at the initial stages of its development and one in January 1999, following the formal public review. All of this input and feedback was then used to revise and enhance the standard.


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*Access,* the newsletter of the National Biological Information Infrastructure, is published by the NBII National Program Office.

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## Partners in the Spotlight

*Partners in the Spotlight highlights the activities and contributions of a wide range of NBII partners. We are pleased to welcome James Brunt and the Long Term Ecological Research Network as this issue's Partner. If you're interested in producing a similar article about your organization, please contact Ron Sepic,* Access *Editor, at: ron_sepic@usgs.gov.*

# Promoting Ecological Science Through The Long Term Ecological Research Network

The Long Term Ecological Research (LTER) Network <www.lternet.edu> is a collaborative effort involving more than 1,100 scientists and students investigating ecological processes operating at long time scales and over broad spatial scales. The Network promotes synthesis and comparative research across sites and ecosystems and among other related national and international research programs.

The National Science Foundation established the program in 1980 to support research on long-term ecological phenomena in the United States. The Network now consists of 21 sites representing diverse ecosystems and research emphases. Many LTER sites are on protected land managed by the U.S. Department of Agriculture, the U.S. Fish and Wildlife Service, The Nature Conservancy, and other private concerns. LTER scientists ask similar questions in a wide variety of landscapes and are supported by a Network office.

The LTER Network Office is supported by a cooperative effort between the National Science Foundation and the University of New Mexico. The primary responsibility of the Network office is to facilitate the achievement of overall science and education objectives as identified by the executive and coordinating committees representing the LTER sites. The office is also the headquarters for LTER informatics efforts and is responsible for the development of the LTER Network Information System.

Over 2,000 data sets collected at LTER sites are accessible to anyone through an extensive network of site-based servers. A searchable data catalog of these data sets with hyperlinks to the metadata is accessible at <www.lternet.edu/DTOC>. Our information managers began working on standards for metadata early in the 1980s for the purpose of making sure that LTER data could be understood and used well into the future—20 years being the cited goal. Uses like data discovery and interoperability were being discussed but this was pre-Web, so any effort in this area meant writing software that would work on multiple computer platforms over the Internet. This hefty task discouraged most serious development in this area.

LTER

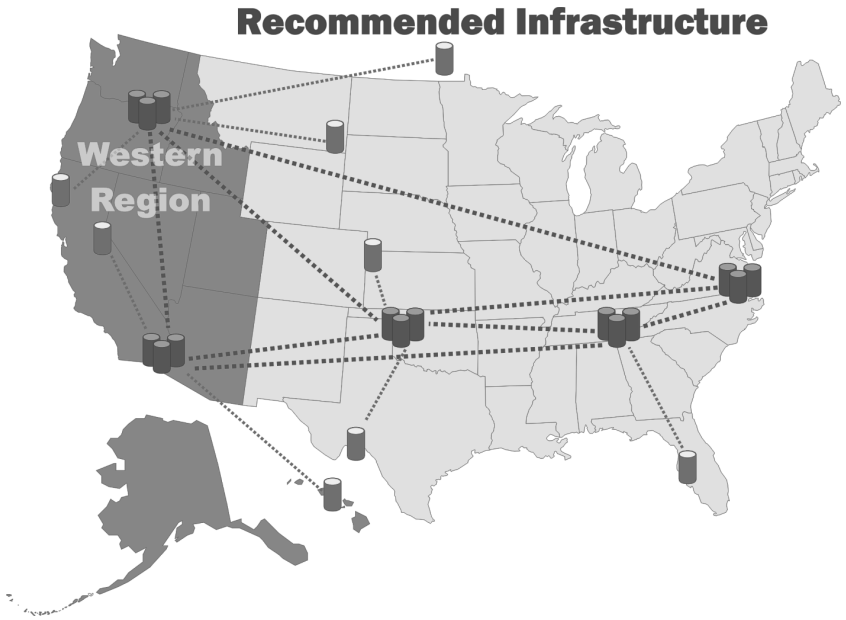
Long Term Ecological Research

Standardization of methods and equipment across the network has now improved connectivity and the development of comparable data sets among sites. Content standards for ecological metadata deemed suitable for meeting the 20-year goal were established in 1994 and became the precursor to standards published in Michener et al. (1997).* Now, ecological metadata standards sufficient to achieve network-wide data integration are a part of the developing network information system—the mission of which is to increase the use and accessibility of this wealth of ecological data and subsequently promote ecological science.

The challenge is providing integrated access to some very heterogeneous and distributed information resources. Taking advantage of improved tools and computational hardware—particularly network technologies—will help us to meet this challenge, but it cannot be done without partners. Like the NBII, the LTER vision is that of one-stop shopping access to ecological data and metadata. Prototypes, including a network-wide climate database, have been developed. Prototyping has helped us to define an extensible framework for the interoperation of the LTER site information systems. These prototype systems take advantage of the latest in Web-to-database-connectivity, as well as complete Internet connectivity to field research sites and access to the vBNS research network. New research in informatics focuses on metadata interoperability using object-distributed systems and includes the ability to crosswalk between standards so that the LTER can participate in efforts like the NBII Clearinghouse.

* Non-geospatial metadata for the ecological sciences. 1997. William K. Michener, James W. Brunt, John J. Helly, Thomas B. Kirchner, and Susan G. Stafford. *Ecological Applications* 7:330-342.

# Pacific Northwest Rallies Support for NBII-2 Node




*The new NBII infrastructure will be based at regional sites, including the proposed Pacific Northwest node. Improved NBII capabilties will be made possible by innovations in hardware, software, and telecommunications.*

The President's Committee of Advisors on Science and Technology (PCAST) report: *Teaming with Life: Investing in Science to Understand and Use America's Living Capital*, laid out some significant challenges for the advancement of the NBII. We are rising to the challenge and expanding our focus with a greater emphasis on information technology hardware, software, and infrastructure. Our success will greatly depend on our ability to continue to foster collaborative relationships and partnerships with information technology and information science experts from a diverse community, including national laboratories, universities, and commercial vendors. Because of its extensive biodiversity and ecosystem management issues, as well as its diverse community of universities, commercial vendors, private organizations, national laboratories, and other government agencies, the Pacific Northwest is a fertile environment for fashioning one of the first NBII-2 regional nodes.

In an emerging partnership, the University of Washington, Washington State University, the Pacific Northwest National Laboratory, and the Northwest Alliance for Computational Science and Engineering (Oregon State University) have joined with the U.S. Geological Survey (USGS) to promote awareness of the NBII and move forward with the implementation of a Pacific Northwest Node. These groups represent a diverse wealth of information science and technology skills and expertise and are all very much involved in the application of leading-edge technology solutions to natural resources management issues.

One of the first initiatives of the group was to host a forum that provided an opportunity for participants to learn more about the future direction of the NBII, the proposed Pacific Northwest Node, and potential collaboration capabilities of organizations in the region. As an introduction to the NBII, Anne Frondorf, NBII Program Manager, and Mike Frame, Center for Biological Informatics, presented the current status and program direction of the NBII-2 and an overview of the conceptual framework of the NBII-2.

Barbara Poore, USGS Federal Geographic Data Committee, discussed the ongoing collaborative funding partnering relationship between the NBII and the National Spatial Data Infrastructure (NSDI) programs. One of the benefactors of NSDI and NBII funding is the Olympic Natural Resources Center clearinghouse. The clearinghouse is a joint effort between the USGS and the University of Washington. Dave Peterson, USGS, provided an overview of the evolution of the clearinghouse, its content, and the communities and ecosystems it supports.

Other presentations provided insight into the successful implementation of the NBII-2. Robert Norheim, a GIS analyst with the USGS, and Nick Chrisman, Professor of Geography, University of Washington, provided overviews of metadata and their value in an overall information management strategy.

A goal of the Northwest Alliance for Computational Science and Engineering (NACSE) is to develop techniques that make access to data seamless and productive for scientists. This goal is quite applicable to the NBII-2 and is facilitated by "usability engineering." Cherri Pancake, Director, NACSE, defined usability engineering as the "science and practice of building software that is more responsive to user needs and preferences."

The Department of Energy Pacific Northwest National Laboratory (managed by Battelle) is identified as a leader in Collaborative Problem-Solving Environments (CPSE). Marty J Peterson, Manager, Distributed and Collaborative Scientific Computing, DOE PNNL, discussed the objectives and benefits of a CPSE. In a CPSE, scientific collaborations are facilitated

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# The North American Biodiversity Information Network Links to ITIS

In July, a connection between the North American Biodiversity Information Network (NABIN) and the Integrated Taxonomic Information System (ITIS) was implemented. Dr. Marcos Silva, Manager of Network and Information Services at the Commission for Environmental Cooperation, explains that NABIN's steering committee made the decision to use ITIS as the taxonomic system for its Species Analyst database integrator. NABIN's Species Analyst is a set of tools that provide seamless simultaneous access to multiple biodiversity collection databases. It also offers users the ability to undertake geospatial analyses of the data retrieved.

NABIN is a project of the Commission for Environmental Cooperation, which was created as a side agreement of the North American Free Trade Agreement (NAFTA). NABIN's objective is to assist institutions that collect, manage, or use biodiversity data to collaborate on providing broader access to information across North America through an electronic federation model similar to the NBII. The goal of NABIN is to provide a holistic perspective of North American species, emphasizing the development of standards and protocols for the exchange of biodiversity information.

ITIS <www.itis.usda.gov/itis> is the first comprehensive, standardized reference for the scientific names of the flora and fauna of North America and surrounding oceans.

"NABIN has undertaken a number of initiatives to interconnect projects so that they are mutually supportive of one another," says Dr. Silva. The NABIN/ITIS connection is one such initiative. Dr. Silva notes that ITIS facilitates NABIN's Distributed Biodiversity Information System by providing a taxonomy for the flora and fauna of North America to use for researching the distribution of species throughout North America. "ITIS is an anchor to classify species names when using the system," he says.

The Distributed Biodiversity Information System <http://chipotle.nhm.ukans.edu/NABIN/> is currently an experimental site, under active development. It includes the Species Analyst Online with summary links to ITIS and GenBank; a hyperbolic tree Taxonomy browser and ITIS interface; a prototype Taxonomy Translator that translates between different ornithological classifications; and species distribution prediction modeling.

The Species Analyst is being developed with support from the National Science Foundation, the Commission for Environmental Cooperation, the Kansas University Museum & Biodiversity Research Center, the National Partnership for Advanced Computational Infrastructure, the NBII, and the Universidad Nacional Autonoma de Mexico. The key developers of the Species Analyst are Dr. Townsend Peterson, Dr. David Vieglais, and Dr. Adolpho Navarro.

*The goal of NABIN is to provide a holistic perspective of North American species, emphasizing the development of standards and protocols for the exchange of biodiversity information.*

Dr. Silva says that NABIN is committed to the vision of creating a network of environmental information that is open and publicly accessible to anyone in the world. The network amalgamates data from biodiversity information collections throughout North America to enable the public and policy makers to determine the impact of environmental changes on their communities and to use the network as a resource for environmental management. Dr. Silva envisions "more public interaction and involvement in communities" resulting from the widespread use of the biodiversity information network.

In the future, NABIN will be expanding its scope of activities on a global scale. It is hoped that NABIN will become more integrated with IABIN, the international Inter-American Biodiversity Information Network <www.nbii.gov/iabin>. "We also hope to connect to the biodiversity information collections of as many institutions as possible within North America," adds Dr. Silva.

## *Pacific Northwest Rallies Support for NBII-2 Node*

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by information technologies and cross-disciplinary teams. This approach has been successfully used on projects with participants from diverse geographical regions.

A Web site is being established to provide a medium for partners to exchange and manage information as they define and implement the Pacific Northwest Node. The Web site is: <http://www.nacse.org/pnwnode/>. Questions about the Pacific Northwest Node may be directed from the Web site or to Jean Freeney, NBII Coordinator, Western Region Office, (206) 220-4616.

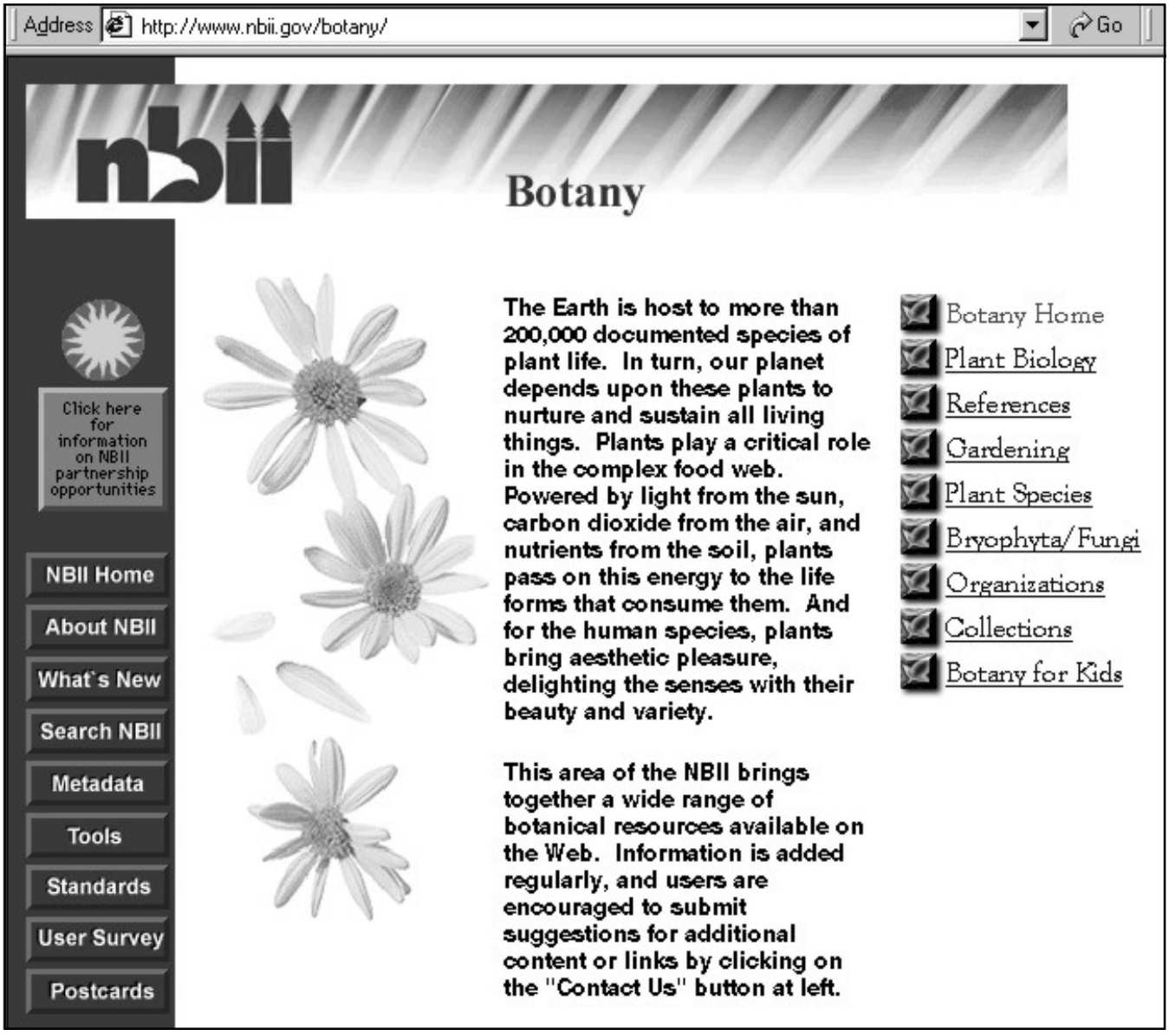
# Botany Site Unveiled on the NBII

The NBII gained yet another featured topic area with the addition of Botany, which made its debut at the 16th International Botanical Congress in St. Louis, MO, August 1-7. Designed for a wide range of users, the NBII Botany area features a variety of subject categories useful to botanical scientists, gardeners, educators, and children. Resources catalogued in this site represent materials maintained by federal, state, and local governments, academic and research institutions, professional organizations and societies, private-sector and non-profit organizations, and others.

The "Plant Biology" section provides links to e-texts and other references addressing plant anatomy and life cycles. The section also includes resources related to plant genetics.

The "References" area provides comprehensive resources in areas of particular interest to researchers and students of the botanical sciences. The "General References" sub-category offers links to botanical journals, glossaries, and electronic texts. "Databases" provides links to a number of searchable, online databases containing geospatial, descriptive, specimen, and image data. The "Indexes" sub-category supplies links to other Web directories. "Taxonomy" points to resources for botanical nomenclature, which utilize the various major systems of plant identification. "Metadata" provides a direct link to the data sets and information products searchable through the NBII Metadata Clearinghouse.

The "Gardening" section offers resources for both hobbyists and scientists. Gardeners can locate information regarding the



cultivation and maintenance of annuals and perennials, vegetables and herbs, wildflowers, houseplants, and cacti and water gardens. Useful to a variety of users is the "Disease and Pest Management" sub-section, which provides links to the latest information from researchers and professional organizations concerning biological and chemical control of plant pests and diseases. The "Invasive Species and Your Garden" sub-category outlines the problem of invasive plant species in the United States and advises gardeners in ways they can help prevent the spread of non-indigenous invaders in their localities.

A "Plant Species" section provides information regarding the cultivation of specific plant species.

Publications, references, research databases, and organizations devoted to the study of lichens, mosses, hornworts, and fungi may be accessed from the "Bryophyta and Fungi" area.

Amateur and professional botanical organizations and societies abound, at regional, national, and international levels. The "Organizations" area provides convenient links to generalist, species-specific, and scientific societies.

The "Collections" section offers links to research collections, herbaria, arboreta, and public botanical gardens of interest to both professional and amateur botanists. Many of these collections provide online databases with which to search their holdings, and several gardens offer "virtual tours."

"Botany for Kids" provides important resources, references, and activities to stimulate and nurture children's interest in botany, and offers useful materials for educators to introduce botany in their classrooms.

The Botany section of NBII supplies an annotated index to the best botanical information on the Web. The site will continue to expand and grow in both topics and content. For more information, visit the site at <http://www.nbii.gov/botany>.









# Announcing Biology in The News

Over the past few months, an exciting new service has been added to the NBII Web site. "Biology in the News" <www.nbii.gov/bionews> provides direct access to national news service Web sites that routinely publish news articles, press releases, fact sheets, reports, and other documents that focus on biological topics or science topics in general. A link to "Science Matters," a monthly guide to science on TV, radio, and the Internet is also provided.


Biology in the News is divided into four sections: BioNews Search, Daily Science News Updates, Recent USGS Biological Research Findings, and Other Biological Hot Topic Links. This recent addition to the NBII provides a single Web location where people can obtain specific information about biology and biological resource issues being discussed in the media today. Biological information is extremely relevant to today's society, and through this new service, the NBII is providing a valuable glimpse of how biological issues are perceived, at least through the eyes of the media.

In BioNews Search, users can submit (or select from a pick list) a single query term, set of terms, or phrase; identify selected Newspapers or News Services to search; and then launch a simultaneous search at multiple Web sites. For example, using the term "biodiversity," you could conduct simultaneous searches of CNN, the *Denver Post*, the AP news services, the *Washington Post*, and MSNBC—and you would retrieve information from all four sites with a single query. Results of each search come up in a separate browser window that appears on your computer Taskbar. Please read the help file included at the Web site if you have any questions about handling multiple browser windows.

The Daily Science News Updates section provides direct links to Web-based news services that routinely provide daily news stories or press releases. A wide range of sources pertaining specifically to biology or science in general are included. Recent USGS Biological Research Findings hotlinks directly to USGS press releases or news articles relating to USGS biological research published in the last six months. This section also links to two different USGS Web sites that provide current stories about USGS biological research.

Finally, Other Biological Hot Topics Links provides specific hotlinks to publications, stories, reports, fact sheets, white papers, electronic journals, and other electronic publications of professional societies and organizations focused on biology and biological information. These links are selected because they provide important or timely biological articles on topics such as ecosystem services, invasive species, biodiversity, global climate change, and coral reefs, but the information presented on these Web sites does not change on a daily basis.

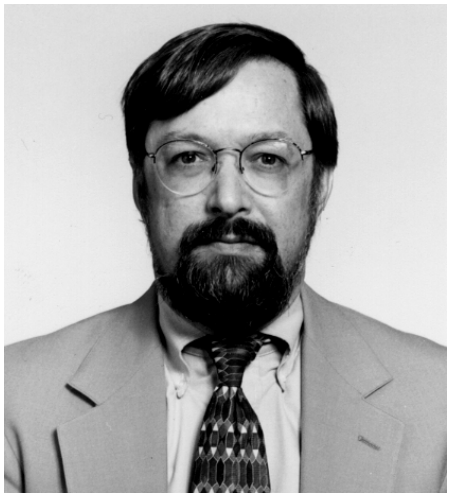
As always, we invite your comments, suggestions, and recommendations of new links to enhance the NBII's ability to provide biological information to those who need it.

# Michael Ruggiero Named Director of the Integrated Taxonomic Information System

Dr. Michael Ruggiero has been appointed the Program Director for the Integrated Taxonomic Information System (ITIS). ITIS <www.itis.usda.gov> is the first comprehensive, standardized reference for the scientific names and taxonomy of the flora and fauna of North America and surrounding oceans. As such, ITIS is a fundamental component of the NBII.

As ITIS Program Director, Dr. Ruggiero will coordinate the overall development and growth of ITIS, working with the many U.S., Canadian, and Mexican agencies, organizations, and taxonomic specialists that participate in this system.

Since 1998, Dr. Ruggiero has been the International Biodiversity Coordinator for the Department of the Interior, where he represented the Department and the U.S. government on technical matters relating to biological diversity. From 1994 to 1998, he served as Leader of the National Biological Status and Trends Program of the U.S. Geological Survey (and the former National Biological Service). In 1996, Dr. Ruggiero worked in the White House Office of Science and Technology on environmental monitoring and biodiversity issues. He served in the National Park Service (NPS) for 12 years, the last five as the Chief of the NPS Wildlife and Vegetation Division in Washington, DC.



*Dr. Michael Ruggiero*

Dr. Ruggiero earned a Ph.D. in zoology from George Washington University specializing in insect ecology and evolution. He has published numerous professional and popular papers in ecology, entomology, and inventory and monitoring, and has served as a scientific advisor for numerous national and international programs related to biodiversity and ecological research.

## *ITIS: Going International With ITIS*ca*

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with the word "potato").

The advanced query screen enables searches of interest mainly to specialists such as all the names published by a particular author, or all the names quoted from a certain source, or all the variations of a given scientific epithet, and so forth. Results screens in ITIS*ca are richly hyperlinked to other automated queries that allow users to navigate freely up and down the taxonomic hierarchy, get statistics on the size of groups and their level of verification, or branch to other aspects of the database.

In addition, the Canadian site incorporates a powerful search engine that provides instant access to most of the taxonomic and biodiversity information maintained by the Canadian federal government on the Web, based on both scientific and vernacular names. This search engine—called CanExplore—can be used in conjunction with ITIS*ca as a stepping stone to exploit several other popular search engines for full Internet biodiversity information queries.

ITIS*ca also connects directly into several authoritative treatments that expand the scope of information accessible via ITIS. For instance, if you search for the weed species "charlock mustard," the result screen provides you with the current scientific name, several synonyms, the complete taxonomic hierarchy up to the kingdom, and also hyperlinks to relevant records of the additional databases: "Brassicaceae of Canada" and "Canadian Poisonous Plants."

New upcoming features include a multiple taxonomy module in which users will be able to compare several competing classifications of given groups and translate from one to another. A prototype of this is being tested with several world lists of birds.

Now that most of the required elements of a strong computing infrastructure are in place, the Canadian effort to populate the database and certify existing records will accelerate. Several taxonomists from Agriculture and Agri-Food Canada have volunteered to take stewardship of major groups. The first groups in the pipeline are the Fungi and the Lepidoptera. More will follow soon. Efforts are also initiated to enlist the participation of other Canadian departments and organizations to make ITIS a major source of information for North American taxonomic and biodiversity information.

# IABIN Forges Ahead After Brasilia Launch Meeting

With financial support from the World Bank, the Brazilian-based Base de Dados Tropical has established a new international Web site for the Inter-American Biodiversity Information Network (IABIN) at <http://www.iabin.org>. The new site provides information on IABIN and will link all national IABIN Web sites, including the U.S. site, accessible at <http://www.nbii.gov/iabin>. The international site was inaugurated to support the Technical Conference for the Implementation of IABIN, held in Brasilia in April 1999, and now includes the papers and recommendations arising from that meeting.

*Financial assistance and endorsement from the OAS will help ensure continuing support for the network and a smooth transition from vision to reality.*

At the Brasilia conference, participants agreed on a basic governance structure for IABIN. That structure includes an IABIN Council, composed of all the national Focal Points for the network; an Executive Committee of 7-9 members, including representation from the various regions of the Americas; a Hub, responsible for the general operations of the network; and a political host. The Organization of American States (OAS) will serve as the political host. An IABIN Interim Executive Committee, appointed at the Brasilia meeting to oversee implementation of the network until the first Council meeting, met in Montreal, Canada, on June 26th to discuss actions to be taken during the remainder of the year.

As part of a strategy for IABIN implementation, the government of Brazil has submitted a proposal on behalf of IABIN to the Special Multilateral Fund for the Inter-American Council on Integral Development (FEMCIDI) of the OAS. Funds are requested to support implementation of IABIN in the year 2000. The IABIN Interim Executive Committee is also seeking endorsement of IABIN from the Inter-American Council for Sustainable Development (CIDS) at the OAS. The Interim Executive Committee is expecting CIDS to pass a resolution endorsing IABIN at their October meeting. In preparation for official endorsement from the OAS, the Committee is planning to hold the first IABIN Council meeting before the end of 1999. Financial assistance and endorsement from the OAS will help ensure continuing support for the network and a smooth transition from vision to reality.

IABIN is a regional initiative of the Summit of the Americas that promotes greater coordination among Western Hemisphere countries in the collection, sharing, and use of biodiversity information relevant to decision-making and education.

## Upcoming Events of NBII Interest

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|---|---|
| **1999** | |
| Thirteenth National Cataloguing Conference, Brisbane, Australia | October 13-15 |
| Association of Research Libraries Conference, Washington, DC | October 13-15 |
| Global 2000. The Information Age: Challenges & Opportunities, Brighton, England | October 16-19 |
| Fourth Annual Micro-Computer Applications in Fish and Wildlife Conference, Lake Tahoe, NV/CA | October 24-27 |
| American Society for Information Science (ASIS) Conference, Washington, DC | October 31-November 4 |
| Online Information 99, London, England | December 7-9 |
| **2000** | |
| American Library Association (ALA) Midwinter Conference, San Antonio, TX | January 14-19 |

*NBII Receives Two Awards (continued from page 1)*

on: customer service — provides excellent service to the public by having a well-designed site that includes a large amount of useful information; business practices — uses the Web to improve business practices in an individual agency or across government; and new technologies — makes use of new technologies that other federal sites should consider emulating.

The NBII and the other winners of the third annual Best Feds on the Web competition are profiled in a story featured on GovExec.com <http://www.govexec.com> that was first posted on October 20.

UPDATE

## See You At AAAS In Washington, DC!

**Are you going to the American Association for the Advancement of Science Annual Conference in Washington, DC, which is being held from February 18-21? If so, please stop by the NBII exhibit and say hello. The NBII exhibit team looks forward to seeing you! Plus, we'll be offering you a variety of NBII handouts, demonstrations, and special prize drawings.**

# CHM Connection

## Informal Advisory Committee Provides Guidance to CHM

In conjunction with the 4th meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-4), the Informal Advisory Committee to the Clearing-House Mechanism (CHM) met in Montreal, Canada, in June to discuss the independent review of the CHM Pilot Phase currently underway and to help develop strategic and long-term work plans for the CHM. The CHM, an international initiative of the 1992 Convention on Biological Diversity, is designed to facilitate technical and scientific cooperation among countries and to provide global access and exchange of information on biological diversity.

The Informal Advisory Committee (IAC) was established during the 1996-1998 pilot phase implementation of the CHM to guide the development of the CHM and to assist the Executive Secretariat of the Convention in ensuring participation from all Parties. The IAC includes representatives from each official UN region as well as major biodiversity information networks worldwide. The Inter-American Biodiversity Information Network (IABIN) is one of the networks having a seat on the council; Gladys Cotter, of the U.S. Geological Survey, is the IABIN representative. At the June meeting, Guy Rochon, of Canada, was elected interim Chair of the IAC.

The IAC met again in September 1999 to continue preparations for SBSTTA-5 (to be held January 2000, in Montreal) and for the 5th meeting of the Conference of the Parties to the Convention on Biological Diversity (COP-5, scheduled for May 2000, in Nairobi, Kenya). The CHM pilot phase review and planning documents will be completed by the end of August and will be presented at both SBSTTA-5 and COP-5.

Information on the Clearing-House Mechanism is available on the Web at <http://www.biodiv.org/chm>.


*USGS Director Charles "Chip" Groat stops by the NBII booth at the International Association of Fish and Wildlife Agencies annual meeting to talk about the program with Jennifer Gaines (left) and Anne Frondorf of the NBII National Program Office. The meeting was held in Killington, Vermont, from September 18-21.*

# NBII Metadata Training

For the latest information regarding location and dates of metadata training classes, just check <http://www.nbii.gov/training> or phone Sharon Shin, NBII Metadata Training Coordinator, at 303/202-4230.

Please note that a metadata training workshop is usually a full two-day course in which participants engage in in-depth discussions, and receive hands-on training, on metadata activities related to the Federal Geographic Data Committee's metadata standard and the NBII biological metadata profile, MetaMaker, and the NBII Clearinghouse. A demonstration is provided at conferences and usually lasts for a few hours. Typically, several computers are set up and individuals receive an overview of the Federal Geographic Data Committee's metadata standard and the NBII biological metadata profile, MetaMaker, and the NBII Clearinghouse.

## Training Schedule 1999

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| University of Denver, Denver, CO, 2 day workshop in partnership with the National Park Service Intermountain Service office. | October 21-22 |
| Fourth Annual Micro-Computer Applications in Fish and Wildlife Conference, Lake Tahoe, CA/NV. ½ day workshop. | October 26 |
| BIOGEO99, USGS National Wetlands Research Center, Lafayette, LA. ½ day workshop. | November 5 |
| American Fisheries Society Southern Division Meeting and 53rd Southeastern Association of Fish and Wildlife Agencies Conference, Greensboro, NC. Two mini courses. | November 7 |
| USGS Midcontinent Ecological Science Center, Fort Collins, CO. 1 day workshop*. * MESC employees only | December 8 |

National Biological Information Infrastructure

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